WHAT IS CLAIMED IS:

1. A voltage regulator comprising:

a reference voltage source for outputting a reference voltage;

a voltage dividing circuit for dividing an output voltage;

a feedback voltage terminal to which a voltage obtained by dividing the output voltage is outputted;

an error amplifier to which the reference voltage and a voltage from the feedback voltage terminal are inputted;

a first transistor of a first conductivity type, which is connected in series between the voltage dividing circuit and an input power source terminal; and

an overcurrent limiting circuit for outputting a signal for controlling the first transistor in response to an output of the error amplifier,

wherein the overcurrent limiting circuit includes:

a second transistor of the first conductivity type, which is connected between the input power source terminal and the error amplifier;

a first resistor connected between the input power source terminal and a terminal to which a signal for controlling the second transistor is inputted;

a third transistor of a second conductivity type, which is connected between the terminal to which the signal for controlling

the second transistor is inputted and a ground potential terminal;

a second resistor connected between a terminal to which a signal for controlling the third transistor is inputted and the ground potential terminal;

a fourth transistor of the first conductivity type, which is connected between the input power source terminal and the second resistor, the output of the error amplifier being inputted to a control terminal of the fourth transistor; and

a differential pair having a first input terminal and a second input terminal, which is connected between the fourth transistor and the second resistor,

the first input terminal of the differential pair being connected with the feedback voltage terminal, and

the second input terminal of the differential pair being connected with an output terminal of the reference voltage source.

2. A voltage regulator according to claim 1, wherein the differential pair includes:

a fifth transistor of the first conductivity type, which has the first input terminal; and

a sixth transistor of the first conductivity type, which has the second input terminal,

the fifth transistor being connected between the second resistor and the fourth transistor, and

the sixth transistor being connected between the ground potential terminal and the fourth transistor.

3. A voltage regulator comprising:

a reference voltage source for outputting a reference voltage;

a voltage dividing circuit for dividing an output voltage;

a feedback voltage terminal to which a voltage obtained by dividing the output voltage is outputted;

an error amplifier to which the reference voltage and a voltage from the feedback voltage terminal are inputted;

a first transistor of a first conductivity type, which is connected in series between the voltage dividing circuit and an input power source terminal; and

an overcurrent limiting circuit for outputting a signal for controlling the first transistor in response to an output of the error amplifier,

wherein the overcurrent limiting circuit includes a differential pair for outputting the signal for controlling the first transistor in response to a signal inputted to the error amplifier.